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With kind regards M. W. H. R.
FESTSKRIFT TILLÄGNAD EDVARD WESTERMARCK

THE DISAPPEARANCE OF USEFUL ARTS

BY

W. H. R. RIVERS.



HELSINGFORS 1912



FROM »FESTSKRIFT TILLÄGNAD EDVARD WESTERMARCK»

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The civilized person, imbued with utilitarian ideas, finds it difficult to understand the disappearance of useful arts. To him it seems almost incredible that arts which not merely add to the comfort and happiness of a people but such as seem almost essential to his very existence should be lost. He assumes that the loss is only to be accounted for by such factors as the total lack of raw material or the occurrence of some catastrophe which has wiped out of existence every person capable of practising the art. The object of this tribute to Professor Westermarck is to show that arts of the highest utility have disappeared in Oceania and to suggest that the causes of the disappearance are not of a simple character but that there must be taken into account social and magico-religious, as well as material and utilitarian, factors. I shall deal with three objects: — the canoe, pottery and the bow and arrow.

THE CANOE.

It might be thought that, if there was one art of life which would have been retained by people living in small groups of islands, it would be the art of navigation. Even putting aside the need for intercourse between the inhabitants of different islands of a group and with the inhabitants of other groups, one would have thought that its usefulness in obtaining food would have been sufficient to make people strain every resource to the utmost to preserve so necessary an object as the canoe. Nevertheless we have clear evidence

that in two places in Oceania the canoe has once been present and has disappeared.

In the Torres Islands (not to be confused with the islands of Torres Straits) the people have at present no canoes and in order to pass over the narrow channels, which separate the islands of their group from one another, they use rude catamarans of bamboo. These craft are so unseaworthy that they are of little use for fishing; how little is shown by the fact that in order to catch the much prized *un* (the *palolo* of Polynesia) the people stand on the reefs and catch the worms with a net at the end of a long pole.

It is quite certain that we have not to do in this case with people who have never possessed the canoe. The Torres Islands form only an outlying group of the Banks Islands which in their turn form a continuous chain with the New Hebrides, and the general culture of the Torres islanders is so closely allied to that of neighbouring peoples and there is such definite tradition of intercourse with them that even if there were no more direct evidence we could be confident that the people must once have shared the prevailing outrigger canoe of this region with their neighbours. Direct evidence, however, is not wanting. Dr. Codrington records¹ that the canoe-makers had died out and that the people had in consequence resigned themselves to doing without an art which must once have taken an important place in their daily avocations.

While the canoe has thus disappeared in the Torres group there is evidence that it has degenerated in the adjacent Banks Islands. The canoe of these islands is now a far less seaworthy and useful craft than it must once have been. There are clear traditions of former communications with the Torres and New Hebrides, if not with more distant

¹ The Melanesians, 1891, p. 293.

islands, but now the canoes only suffice for journeys within the Banks group and are not even good enough to fulfil this purpose completely. The canoe of Mota cannot be trusted to take its people to the island of Merlav which forms the southern limit of the group. Further, Dr. Codrington records ¹ that at Lakon, a district of Santa Maria, one of the largest of the Banks Islands, the people for a time went without their canoes though, unlike the Torres islanders, they had learnt the art.

It is clear that this disappearance or degeneration of the canoe is not due to modern European influence. The canoe had already disappeared in the Torres Islands when Dr. Codrington was in Melanesia and this was not long enough after the settlement of Europeans to allow the loss to be ascribed to this cause.

The other place in Oceania where we have evidence of the disappearance of the canoe is Mangareva (Gambier Islands). When this island was first visited by Beechey ² he found the people using large rafts capable of carrying twenty men, together with smaller craft of the same kind; and yet, as Friederici has pointed out ³, there is one fact which shows that these islanders had formerly possessed the canoe. The Mangareva people call their raft *kiatu* which is a widely distributed word in the Pacific for the outrigger of the canoe. We can be confident that this word indicates a direct relation between the Mangareva raft and the ordinary Polynesian canoe. Even if it would be rash to conclude that the raft is the direct descendant of the outrigger of an ancient canoe, we can be confident that the natives of Mangareva were once acquainted with the canoe but had it no longer

¹ *Loc. cit.*

² Narrative of a voyage to the Pacific, 1831, i, 142.

³ Beiträge z. Völker- und Sprachenkunde von Deutsch-Neuguinea, Berlin, 1912, p. 247.

when their island first became known early in the last century. When Beechey visited Mangareva the people sailed their rafts and could do so much with them that it would not be correct to say that they had lost the art of navigation, as may be said about the Torres Islanders. Nevertheless the art must have been very inferior to that which was given to them by the possession of the canoe.

POTTERY.

Pottery is less essential to the life of an islander than a canoe but yet its convenience must be so great that its manufacture would seem to be an art most unlikely to disappear.

The distribution of pottery is one of the most remarkable features of the material culture of Oceania. In southern Melanesia it is now found only in two places, New Caledonia and Espiritu Santo (usually called Santo), and then, passing northwards, we do not meet with it again till we come to the Shortland Islands, Bougainville and Buka, and then it goes again to reappear in New Guinea. Eastwards it is found in Fiji but is totally absent from Polynesia.

Its distribution, however, was once more extensive. Fragments of pottery are found scattered about in Malikolo¹ and Pentecost², in neither of which islands is pottery now used and in Malikolo the people have a myth to explain the presence of the fragments. Further, pottery has been found buried at considerable depths in two places, and promises through its indestructibility to become in these distant islands

¹ Somerville, Journ. Anth. Inst., 1894, Vol. XXIII, p. 378.

² Joly, Bull. d. l. soc. d'Anth., Paris, 1904, Sér. V., t. V., p. 366.

as important a guide to past history as in the older world. In Lepers' Island (Omba) Glaumont has found¹ coarse potsherds lying nine feet below the surface and in Ambrym² pottery has been found accompanying an ancient burial. We have here clear evidence of the use of pottery over an extensive region in only one corner of which it is still made.

Similar discoveries of ancient pottery have been made in New Guinea³. Here pots are still made in the districts where this ancient pottery has been found, but in south eastern New Guinea the ancient pottery is far superior to that now made, though similar to it in several respects. The modern pottery which most nearly approaches the old in character is that used in Murua (Woodlark Island) as a receptacle for the bones of the dead. If, as is probable, this modern pottery is the direct descendant of the old, we may note that it has survived in its completest form, not for a utilitarian purpose, but as part of the ritual of death.

There is thus clear evidence that pottery has disappeared from some islands where it was once in regular use, and that in others where pottery is still used, the art has fallen far below its former level of excellence.

THE BOW AND ARROW.

There is definite evidence that the bow and arrow was

¹ Voyage d'exploration aux Nouvelles-Hébrides, Niort, 1899. (abstract *Globus*, 1899, Vol. LXXVI, p. 228).

² Joly, *op. cit.*, p. 365.

³ Seligmann and Joyce, *Anthropological Essays presented to E. B. Tylor*, 1907, p. 333 and Pösch, *Mitt. Anth. Gesellsch. Wien*, 1907, Vol. XXXVII. p. 67.

once a far more widespread and important weapon in Oceania than it is at present¹.

In Polynesia it is only definitely known to have been used as a weapon in Tonga² and Samoa³. In Tahiti the use of the bow in war is doubtful⁴ but it was used to shoot at a mark in sport and it is difficult to understand the existence of archery as a sport if the bow had not once had a more serious use. In other parts of Polynesia the bow is used in sport especially to kill rats, and also to shoot birds and fish for food. Here again there can be little doubt that these uses are only survivals of a time when it was employed as a weapon. What little doubt remains is dissipated when we find that the word for the bow of Polynesia is often *pana*, *fana*, or *ana*, forms of a widespread word for the bow in Oceania and used in places where the bow is the chief weapon.

In Melanesia the conditions are much as in Polynesia, the bow and arrow being used as a toy or to shoot birds and fish in places where there is evidence of its former use in war.

In New Britain the bow is only used in war by the Kilenge people of the north coast⁵ and since they obtain it from the people of New Guinea it might be thought that it has only recently been introduced. The bow is used in war in the middle of New Ireland but the people at the southern

¹ This evidence has been recently fully set out and discussed by Friederici, *op. cit.*, pp. 119—133.

² Mariner's Tonga, Vol. i, p. 283 and Vol. ii, p. 287.

³ Wilkes, Narrative U. S. Exploring Expedition, 1845, Vol. ii, p. 151.

⁴ See Appendix A.

⁵ Danks, Rep. Austral. Assoc., 1892, p. 619; Kleintitschen, Die Küstenbewohner der Gazelle-Halbinsel, Hilstrup, (preface dated 1906), p. 212; Brown, Melanesians and Polynesians, p. 324; and Friederici, *Op. cit.*, p. 119.

end use it only to shoot pigeons¹. In New Hanover² the bow and arrow is said to be now unknown and in the Admiralty Islands it has hitherto only been known as a toy, though the Hamburg Expedition has recently discovered a bow once used in war³.

There is clear evidence, however, that in some of these islands the use of the bow in war was once more general. The ancient voyagers record that the natives of these islands shot at them with arrows and there is some evidence in favour of a progressive diminution in the importance of this weapon⁴. Again, though the bow was till recently used in war in the British Solomons⁵, it was certainly a less important weapon than when the islands were visited by the Spaniards two centuries earlier⁶.

In many parts of New Guinea, and especially among the people who speak languages of the Melanesian family, the bow and arrow is now absent, or used only as a toy or to shoot birds. In this case there is more justification for the view that the bow has been introduced recently, for in parts of German New Guinea the bows and arrows used by the coastal people to shoot birds are obtained from the natives of the interior⁷, while on the south coast of British New Guinea they are obtained from the people of the Papuan Gulf⁸.

In German New Guinea, however, a fact has been recorded which points clearly to the bow and arrow being a survival rather than a recently introduced element of culture.

¹ Stephan and Graebner, Neu-Mecklenburg, Berlin, 1907, p. 51.

² Strauch, Zeitsch. f. Ethnol., 1877, Vol. ix, p. 54.

³ Globus, 1909, Vol. xcv., p. 103.

⁴ See Appendix B.

⁵ Codrington, Melanesians, p. 304.

⁶ Discovery of Solomon Islands, (Hakluyt Soc.), 1901, Vol. i, p. lxxvii and pp. 24, 34, 47, 50, 57, etc.

⁷ Friederici, *op. cit.*, p. 120.

⁸ Seligmann, Melanesians of British New Guinea, pp. 93, 215.

Pösch¹ found that the Monumbo living on the coast opposite Vulcan Island in German New Guinea do not use the bow and arrow. They have, however, a word for the bow in their language, and in their marriage ceremony the bride holds in her hand a symbolic bow and arrow, this ceremonial use pointing unmistakeably to the ancient importance of the weapon thus symbolized.

Again, in British New Guinea the storing of the bow and arrow in the *marea* or clubhouse among the Roro² suggests that this weapon is an ancient possession of the people, and this is supported by the fact that even the Papuan tribes from whom the bow is obtained apply to it terms which are almost certainly Melanesian. In New Guinea, as in Melanesia, there is thus reason to believe that the bow and arrow was once a more important element of the culture than it is at present.

Having now established the fact that in certain parts of Oceania there have been lost three arts the utility of which would seem to make their disappearance most unlikely, I proceed to consider to what causes this disappearance is to be ascribed. I will consider these causes under three heads, material, social and magico-religious.

MATERIAL CAUSES.

The most obvious cause of the disappearance of an art, however useful it may be, is the absence of the raw material out of which it is made and I have first to consider whether the disuse of the canoe and of the bow in many

¹ Globus, 1903, Vol. xciii, p. 141.

² Seligmann, *op. cit.*, p. 229.

parts of Oceania may have been due to lack of suitable wood and that of pottery to the want of clay.

There are certain features of the art of canoe-making in the Pacific which suggest the lack of raw material as a possible cause. There are islands of the Pacific where there are no trees from which a dug-out canoe could be made and the people have to depend on the arrival of driftwood. Further, this dependence on driftwood may be necessary even in islands where there are suitable trees owing to the implements of the people being incapable either of cutting down a tree of sufficient size or of hollowing it after it has been felled. It is not difficult to see how a people may allow their implements to degenerate till they are incapable of felling or hollowing trees so that after a time they become dependent upon driftwood, and that then some change of current or other cause may allow so long a time to elapse without arrival of suitable wood as to explain the loss of the art.

There is no reason, however, for supposing that this has been the cause of the disappearance of the canoe in either the Torres Islands or Mangareva. The Torres Islands are well wooded and their implements are not notably, if at all, inferior to those of neighbouring groups of islands where the canoe is still made. Again, the picture of the Mangareva raft in Beechey's book shows that the natives were able to use large planks of wood, and absence of suitable material may be put on one side here also.

There is no reason whatever for supposing that absence of suitable material has played any part in the disappearance of the bow but with pottery the case is different. The geological character of many of the islands of the Pacific shows that they must be quite devoid of any material from which pots could be made and the absence of raw material is probably a most important, if not the essential, factor accounting for the absence of pottery from Polynesian culture. Absence of clay, however, will not explain the disappearance

of pottery in Melanesia and the ancient pottery of Lepers' Island was covered by many feet of clay-like earth which would probably have been suitable for the manufacture of pots if the art had not disappeared through some other cause. Though absence of raw material may have caused the loss of the potter's art in Polynesia, it cannot explain its disappearance in Melanesia, nor can it explain the loss of the canoe and of the bow and arrow.

Material and utilitarian motives of other kinds have been suggested to account for the disuse of the bow and arrow as a weapon. Gill ¹ has suggested that the eastern Polynesians did not use the bow in war because their arrows could not pierce the folds of cloth with which they covered their bodies. Even if this were a sufficient motive in eastern Polynesia, it would not explain the disuse of the bow elsewhere in Oceania. Again, Peschel ² has suggested the absence of land-mammals as the cause of the disuse of the bow and arrow in Polynesia, pointing out that the bow is a weapon which requires constant practice in peace in order to ensure accuracy of aim in war. The use of the bow and arrow in sport throughout Polynesia seems, however, to provide the necessary element of practice and the archery of Tahiti must almost certainly have had such practice as its original motive.

Peschel explained the disuse of the bow and arrow in New Britain and New Ireland in the same way, ignoring the fact that there is no such difference in the nature of the fauna of different parts of the Bismarck Archipelago and New Guinea as will account of the use of the bow in some places and not in others. Further, Peschel seems to have forgotten the fact that the bow is the prevailing weapon of southern Melanesia where land-mammals are even more

¹ *Life in the Southern Islands*, London, (preface 1876), p. 28.

² *Völkerkunde*, 6th edition, Leipzig, 1885, p. 187.

scarce than in those parts of Melanesia from which the bow is absent.

A more probable motive for the disuse of the bow in Polynesia has been suggested by Friederici¹ who points out the unsuitability to the physical conditions of Polynesian warfare. He believes, almost certainly with right, that the bow was a prominent, if not the chief, weapon of the ancestors of the Polynesians. The warfare of the Polynesians is conducted in canoes or on shores affording little cover from the wind and Friederici has himself seen how the strong winds of the Pacific make the arrow a fluttering and harmless missile. He suggests that the bow was the weapon of a people accustomed to fight in the bush who found it ill adapted to the more open character of the islands of Polynesia.

This factor, however, will not explain the disuse of the bow as a weapon over large regions of Melanesia where there is present the condition of bush-warfare to which Friederici supposes the bow and arrow to be especially adapted. Nevertheless, it is possible that the disappearance of the bow has been due here also to the special nature of the warfare. The leading principle of the strategy of many parts of Melanesia is the use of surprise. The object of an invading party is to come to close quarters and destroy the enemy in the early morning, while he is still asleep. The importance of this mode of warfare cannot, however, fully account for the disappearance of the bow and arrow, for this weapon is still used by some of the people who practice this war by stealth. It is probable that the causes of the disappearance of the bow and arrow in so many parts of Melanesia have not been purely material but that other motives have been in action.

¹ Loc. cit; also Mitt. d. Verein f. Erdkunde, Leipzig, 1910, (1911), p. 165.

SOCIAL CAUSES.

A second group of factors which may bring about the loss of useful arts are of a social nature. Many of the objects used in the every day life of Oceania are not made by any member of the community but their manufacture is confined to special groups of craftsmen. Thus, in Tonga and Tikopia canoes are only made by certain men called *tufunga* who are succeeded in this occupation by their sons. Though in Tikopia a man can become a *tufunga* through his own efforts, the obstacles in the way of his success are very great and the craftsmen thus form a body limited in number, definitely distinguished from the rest of the community. It is only necessary for such a limited body of men to disappear either as the result of disease or war or through some natural catastrophe, to account for the disappearance of an art. As we have seen, there is evidence that this dying out of skilled craftsmen has been the cause of the disappearance of the canoe in the Torres Islands, and Seligmann and Strong¹ have recorded the dying out of skilled craftsmen as the cause of the disappearance of the art of making stone adzes in the Suloga district of Murua (Woodlark Island). The dying out of skilled craftsmen within a community is thus established as a cause of the loss of useful arts.

This factor, however, will only explain a localized loss here and there. It will explain the loss of the canoe on isolated groups of islands but it will not account for the absence of the bow and arrow or of pottery over large areas of Oceania. The skilled craftsmen would not be likely to die out simultaneously among all the peoples of an extensive area.

In certain parts of Oceania there are, however, conditions which make the extensive loss of useful arts more

¹ Geographical Journal, 1906, Vol. XXVII, p. 347.

intelligible. Useful objects are often made only in certain places whence they spread over a large area by means of trade. Thus, the people of the Papuan Gulf obtain their pots from the Motu and Koita round about Port Moresby and trade in pottery is also found among the Massim¹. Again, in New Caledonia pots are said to be made only in three places². The extermination of the people who made pottery by warfare or by some natural catastrophe might thus be limited to a small region and yet it might lead to the disappearance of the use of pottery over large and even remote regions. There is some reason to suppose that a catastrophe of a volcanic character may have led to the loss of pottery in the northern New Hebrides. The fragments of pottery found in Lepers' Island lay under two layers of soil, the deeper of which consisted of scoriae. In this region where volcanoes are even now active³, it is possible that the use of pottery throughout an extensive region was wiped out by the destruction of some special people from whom the pottery was obtained. It is even possible that the pottery of Santo may have been introduced later into a region from which pottery had many ages before been eliminated by a volcanic catastrophe. We should have in such a case a combination of material and social factors. If pottery were once made in every island and district of the northern New Hebrides, it is very unlikely that any volcanic catastrophe would have wiped it out completely; but the limitation of the art to one district is a social factor which makes intelligible such an effect of the material agency. The material factor acting alone would not have abolished the art but in combination with the limitation of the manufacture to special

¹ See Seligmann, *op. cit.*, pp. 96 and 526.

² De Vaux, *Rev. d'Ethnog.*, 1883, Vol. ii, p. 340.

³ Volcanoes are still active in Ambrym and Lopevi and volcanic activity has not yet exhausted itself in Lepers' Island. Codrington, *Melanesians*, p. 14.

tribes, it would enable a localized catastrophe to destroy an art over a wide region. Even this combination of causes, however, would not destroy an art over such extensive regions of Oceania as some of those in which useful arts have disappeared.

It is possible that social causes may have assisted the utilitarian motives suggested by Friederici as the cause of the disuse of the bow and arrow as a weapon. In many parts of Polynesia, if not generally, fighting had largely a ceremonial character, the killing of a man on either side or even the drawing of blood being sufficient to put an end to a fight. In such a condition strictly utilitarian motives would count for very little and thus would be made easy a process by which one weapon was changed for another of a less deadly character.

Again, among a people so advanced as the Polynesians it is a question whether the mere play of fashion may not have had a great influence. If war were the deadly process it is with us, it is most unlikely that a weapon capable of killing at a distance should give way to one which can only be used at close quarters, but if war is largely ceremonial it is possible that the bow and arrow may have been supplanted by the club. The great development of the club in Polynesia, its manifold development in form and ornament, show how great a part it has played in the interests and affections of the people. It does not seem unlikely that the club may have so become the fashion at one stage of Polynesian history and so excited the aesthetic, and perhaps the religious, emotions and sentiments of the people that the bow and arrow ceased not merely to be an object of interest; it ceased to be used at all for the serious business of warfare and persisted only for the relatively unimportant purposes of shooting birds, rats and fish or for the pure sport of archery.

Useful arts may also disappear through the influence of

an immigrant people. The contact of two peoples has social consequences of a complicated character in which elements of the material culture may be involved. It is unlikely that immigrant influence would ever lead people to discard such useful objects as pottery and the canoe, but it is probable that it has played a part in the disuse of the bow and arrow in Melanesia. It is even possible that the change of fashion I have supposed to have occurred in Polynesia may have been connected with the presence of a new ethnic element in the population.

RELIGIOUS AND MAGICAL FACTORS.

In the last section I have suggested that religious factors may have assisted the development of the club in Polynesia and thus helped to bring about the disappearance of the bow and arrow as a weapon. There is another religious factor which may have worked in the same direction. People whose highest hope it is to die in battle, to whom this end opens the way to a future life in a special paradise, are not likely to be swayed by utilitarian motives in their choice of weapons. If the bow and arrow had a great superiority as a weapon, and if war were waged in earnest, we could have trusted to natural selection to ensure its survival, but in the absence of such superiority, the Polynesian contempt for death may have had a share in its disappearance.

It is also possible that religious or magical motives may have assisted the loss of useful arts dependent upon the dying out of special craftsmen. To our utilitarian minds there may seem to be a serious objection to the view that useful arts have disappeared through the dying out of craftsmen. We can readily understand how such a factor would produce a great falling off in workmanship and ornamentation, but from our point of view it would seem most unlikely that people would stand idly by and allow the dis-

appearance of arts so useful as those of making pottery and canoes. Nevertheless we have found that arts have disappeared for this reason and it remains to discover why. In many parts of Oceania an art practised by a special group of craftsmen is not a mere technical performance but has a definitely religious character and may be regarded as a long series of religious rites. It is not enough to be able to make a canoe but you must also know the appropriate rites which will make it safe to use it for profane purposes without danger from ghostly or other supernatural agencies. To go in a canoe which has not been the subject of such rites would be to put oneself into the midst of all kinds of hidden and mysterious dangers. In Polynesia this religious character of crafts is shown even in the terms applied to those who practice them. The *tufunga* of Tonga and Tikopia is only one form of the *tohunga* of the Maori, the *tuhuna* of Tahiti, the *taunga* of Mangaia, the *tahunga* of the Low Archipelago and the *kahuna* of the Hawaiian Islands. Most of these words are used both for priests and craftsmen¹, thus pointing clearly to the religious character of the occupations they follow. In combination with rites which so often accompany the process of manufacture this common nomenclature suggests that the disappearance of useful arts through the dying of craftsmen may not have been due solely, or even chiefly, to the loss of their manual skill but that the quenching of their spiritual power, the *mana* of Oceania, may have been another and most potent factor.

I have no case in which I can definitely show that a useful art has disappeared from religious or magical motives. I wish rather to direct attention to the possibility of such motives in order that workers in the field and theorists at home may not be content with obvious utilitarian explana-

¹ Cf. Christian, *Eastern Pacific Lands*, 1910, p. 162.

tions of the loss of useful arts. I can, however, cite a case where a ceremonial custom has disappeared which shows how such motives as I have assumed are able to abolish important elements of culture. A variety of circumcision, more suitably termed incision, is a widespread Polynesian custom but it is absent in certain islands such as Penrhyn, Niue, Pukupuku and Manihiki. Gill¹ believes that the custom was once practised in these islands but has disappeared owing to the absence of the red quartz which is invariably used in neighbouring parts of Polynesia to perform the operation. If Gill is right, we have here a case in which a people have allowed an important rite to lapse rather than carry it out in a manner other than that hallowed by custom. If many of the arts of Oceania are at the same time religious rites, we have in the disappearance of incision a suggestive example of the kind of mechanism whereby useful arts may also have disappeared.

It is in the case of the canoe that we have the most definite evidence of the religious character of the manufacture of a useful object. In the case of pottery, I know of no such evidence though our knowledge of this branch of Oceanic technology is very meagre. Melanesian arrows, however, have certain features which suggest a magico-religious character which may well have played a part in their disappearance. Not only is the Melanesian arrow often tipped with human bone, but it may have a human or animal form which would suggest a magico-religious character even if we did not know of rites designed to give efficacy to its flight. Though the material and social factors I have considered may be sufficient to account for the disuse of this weapon over large areas of Oceania, we should even here not shut our eyes to the possibility that some part in the process may have been played by magical or religious factors.

¹ Rep. Austral. Assoc., 1890, vol. ii, p. 327.

I can now consider briefly some problems of general interest towards the solution of which the conclusions of this paper may contribute.

My own interest in the subject has come directly out of my attempt to carry out an ethnological analysis of Oceanic culture. If movements of people have carried cultures over wide regions of the globe, it is inevitable that some of the elements of these cultures must disappear and thus will there be lost links in the chain of evidence. In any attempt to analyse a cultural complex, it will be often necessary to assume such disappearance; and the probability and stability of any analytic scheme will be greatly promoted if one is able to assign motives for the disappearance, either from physical features of the environment, or from social or magico-religious features of the culture.

I hope that I have made it clear that in studying the history of culture we must be prepared for changes not to be accounted for by the likes and dislikes of the civilized and almost incredible from the utilitarian point of view. We must be very cautious in assuming that elements of culture are so useful or so important that they would never be allowed to disappear. If islanders can lose the canoe, of what features of culture can we safely say that they can never be lost?

A second most important aspect of my subject is one in which the loss of the canoe is especially concerned. In many regions of Oceania and in other parts of the world, islands are now to be found inhabited by people whose present means of transportation are wholly insufficient to have brought them from the nearest land. In dealing with such problems it has sometimes been assumed that under no circumstances is it credible that people could ever lose the art of navigation and it has therefore been concluded that the islands must have been peopled when they were connected with some continent by a connecting bridge of land. On

similar grounds it has even been supposed that scattered islands are the mountain peaks of submerged continents, of whose people the natives of the islands are the survivors. Thus Giglioli¹, starting from the assumption that the frail canoes of the Tasmanians could never have brought them from Australia, has argued that the Tasmanians must have reached their island when it was connected with the mainland and, accepting Giglioli's statement² that no case is known in which people have lost the art of navigation, Howitt³ has adopted the supposed passage of the ancestors of the Tasmanians by dry land. Again, the culture of Easter Island has led some to suppose that it is one of the mountain-peaks of a Pacific continent. The grounds for such hypotheses and conjectures are swept away if it be established that even an art so useful as that of navigation can disappear.

Another way in which use has been made of the supposed impossibility of the loss of the art of navigation is in the ascription of an indigenous character to the culture of certain regions. Thus, Mr. Joyce⁴ has lately argued against any influence of people from the Pacific Ocean upon South America on the grounds that along the whole of the coast of South America nothing but the most primitive raft was found. The facts I have brought forward deprive this argument of its cogency, though it may be noted that the absence of the canoe is only one of several features which Mr. Joyce believes to point to the indigenous nature of the Andean culture.

Lastly, I cannot forbear from pointing out an allied aspect of human culture which points in the same direction

¹ I Tasmaniani, Milano, 1874.

² *Op. cit.*, p. 133.

³ Native Tribes of south east Australia, p. 9.

⁴ South American Archaeology, 1912, p. 190.

as the special subject of this article. Quite as striking as the loss of useful arts is the extraordinary persistence of elements of culture which seem to us wholly useless, and perhaps are so even to those who seem so careful to preserve them. This persistence of the useless combines with the disappearance of the useful to make us beware of judging human culture by purely utilitarian standards. I have perhaps in this paper gone beyond the limit warranted by my evidence in assigning the loss of useful arts to religious motives. I have done so without misgiving, however, because I am sure that I cannot be far wrong in bringing forward views, hypothetical though they be, which will put us on our guard in estimating the motives which guide the conduct of peoples with cultures widely different from our own. I hope that the facts brought forward in this paper have been sufficient to show that utilitarian motives are less important in determining the course of the ruder stages of man's history than we suppose them to be among ourselves.

APPENDIX A.

The Bow in Tahiti.

The only early visitor who records the use of the bow and arrow as a weapon is Bougainville¹ who gives the bow, the sling and a kind of pike as the weapons of the Tahitians. Cook only mentions the sling, pike and club, while Wallis expressly states that though the Tahitians use the bow and arrow, the arrow is only fit to knock down a bird, not being pointed but only headed with a round stone². Wilson³

¹ Voyage round the World, 1772, p. 253.

² Hawkesworth, Account of Voyages, London, 1773, Vol. i., p. 244 and Vol. ii., p. 488.

³ A Missionary Voyage to the Southern Pacific Ocean, London, 1799, p. 368.

records that the bow and arrow was never used in war but only in sport; the people shot »against each other, not at a mark, but for the greatest distance». The statements of Wallis and Wilson are confirmed by later authorities. Ellis¹ says that bows and arrows are never used except for amusement and Gill² states that throughout eastern Polynesia bows and arrows were used for sport, not for war.

APPENDIX B.

The Bow in New Britain and New Ireland.

Since the value of the evidence for the use of the bow and arrow as a weapon in New Britain and New Ireland has been disputed, it may be useful to cite it here. In the earlier half of the eighteenth century Behrens³ records that the natives of New Britain shot at Roggeveen's expedition with arrows, as well as with lances and slings. Later in this century Bougainville records⁴ that the natives of New Britain attacked his ship with stones and arrows. Again, in the earlier part of the last century, Lesson⁵ does not record the bow and arrow among the weapons of New Ireland, but in another place⁶ when speaking of the bows and arrows of Buka, he says that they were like those of New Ireland and New Britain. From Lesson's account it seems that in the earlier part of the last century the bow and arrow was still used as a weapon though it took so small a place

¹ Polynesian Researches, Vol. i. p. 299.

² Life in the Southern Islands, London, 1876, p. 28.

³ Reise durch die Süd-lander und um die Welt, Frankfurt u. Leipzig, 1737, p. 151.

⁴ Voyage autour du Monde, Seconde édition, Paris, 1772, T. ii, p. 225.

⁵ See Duperrey, Voyage autour du Monde, 1826, T. i., p. 528.

⁶ *Op. cit.*, T. i., p. 98. See also Atlas, Plate, 24.

beside the lance, club and sling, that he did not enumerate it among the weapons of the people.

The definite statements of the travellers of the eighteenth century, however, can leave no doubt about the more ancient use of the bow and arrow as a weapon and the evidence of Behrens is peculiarly valuable in that he mentions both »Pfeilen» and »Wurf-Pfeilen», showing that he did not confuse arrows with lances either in observation or memory.

The evidence suggests that the bow and arrow was becoming a less important weapon during the interval between the visits of Roggeveen and Duperrey and that this process has continued and led to the total disuse of the bow and arrow in war.

Stephan and Graebner¹ discount the value of the evidence of Behrens and Lesson and suppose that Lesson confused New Ireland with Buka, although the way in which the essential fact is recorded makes this most improbable. More recently Graebner² has cited the statements of Behrens and Lesson as examples of untrustworthy evidence and as instances of a mistake liable to be made when dealing with widely distributed objects. The example has not been well chosen; it would be difficult to find an ethnographical fact with better credentials. If the statements of three independent eye-witnesses³ are not to be trusted, where are we to turn for satisfactory evidence?

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¹ Neu-Mecklenburg, pp. 7 and 51.

² Methode der Ethnologie, Heidelberg, 1911, p. 48.

³ Graebner appears to have overlooked the evidence of one of the three, Bougainville.

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